

# SWEN303

## **Assignment 1: Personas and Requirements**

Matt Romanes

300492211

# **Description - Covid Contact Tracing**

## **Business Objectives**

The COVID-19 Tracer App has no commercial purpose. Instead, it was developed by the Ministry of Health (MOH) to allow users to record their activity for the ease of contact tracing.

The main functionality of the app is its QR code reader. QR codes are placed on the windows of every commercial retail store and public transport, and using the app to scan these QR codes creates a data entry in the app's built-in digital diary. The data stored in said diary is not shared with anyone unless requested by a contact tracer (usually via code). However, this will only occur if the user becomes a probable case of COVID-19 in their community.

The app also includes the option of manually logging a data entry into the diary. If a user is unable to use the QR code reader for whatever reason, they can list the place or activity, and the arrival time at said place or activity. As mentioned earlier, the data entered into the diary is not shared with anyone else unless upon request by a contact tracer.

The COVID-19 Tracer App utilizes Bluetooth to enable what is known as Bluetooth tracing. If enabled, your smartphone exchanges random anonymous keys with other nearby smartphones with the feature enabled. If you or another app user in your community tests positive for COVID-19, a Bluetooth alert will be sent out to other app users who have been in close contact. This does not replace the need for QR code reading or manual diary entries; rather it is a way to maintain safety in communities without compromising users' privacy.

If a user becomes a close contact of a probable or confirmed case of COVID-19, they are contacted by a contact tracer and will be requested to share their digital diary with the contact tracer. To maintain privacy, however, the contact tracer sends the user a verification code to ensure the user is genuine and not a hacker. Once the code is inputted, the data stored in the app's digital diary is shared with the contact tracer. Only data within 60 days of the present day is stored in the digital diary.

While most modern smartphones have built-in QR code readers, and while Android and iOS have their respective apps that allow for digital diary entries, an app such as the COVID-19 Tracer App has never existed, or at least gone mainstream, until the COVID-19 pandemic raised the question on how to improve the process of contact tracing.

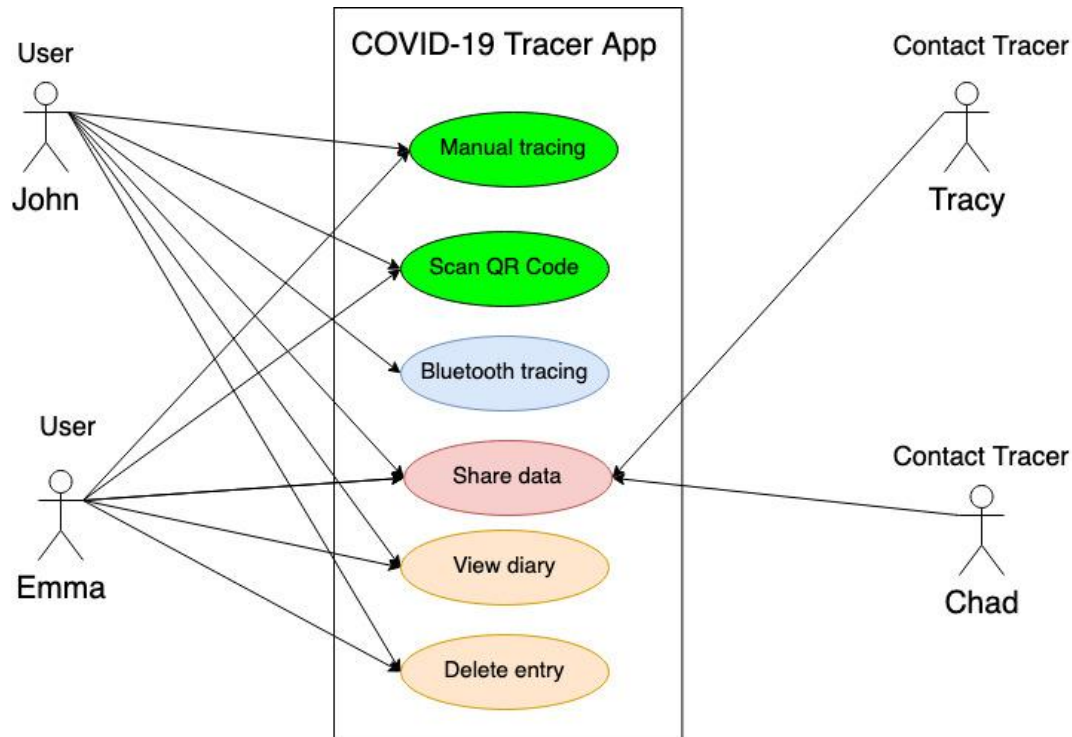
## **Importance to Stakeholders**

The app is essential for all of New Zealand in fighting off COVID-19; it provides the first line of defense for the NZ Government and communities nationwide. Having an app such as this will benefit contact tracers significantly. Encouraging the five million people of New Zealand to use this app will help improve the process of contact tracing, allowing the best course of action to be determined much sooner and potential outbreaks to be contained much faster.

The users are the direct beneficiaries of this app. By recording their activity during the day, they are keeping themselves and the people around them safe from COVID-19. The app provides a number of opportunities for users in how they log their activity. Users can scan QR codes and allow the process to be automated, or if this is not possible, manually enter a diary entry. Users also have the option to enable Bluetooth tracing, which will alert users if they have been in close contact with a probable or confirmed case of COVID-19. And while this is a rare scenario for most people, users have the ability to share their digital diary with a contact tracer if ever approached by them.

# Model Overview

The use case diagram was created using [diagrams.net](https://diagrams.net)



The app provides the user with three opportunities to record their activity; manual tracing, QR code scanning and Bluetooth tracing. All three are secure in terms of privacy (I will go into this later in the document). Manual tracing involves recording the place or activity, the date and time, and additional details if the user wants to elaborate. QR code reading is the simplest of the three; simply point the phone camera at a MOH registered QR code and the entire process is automated. Bluetooth tracing works by having smartphones exchange anonymous digital keys with one another, forming a digital keychain. This does not replace the aforementioned methods of activity logging; rather it is a way to record who a user has been with.

And I'd like to point out that as seen above, a lot of the app's functionalities are rather one sided; the users get to use all of the app's functionalities, whereas the contact tracers only have access to the user's digital diary entries. And even then, the contact tracer will only have access to a user's diary entry when it is shared with them. For this to happen, the user must be a close contact of a probable or confirmed case of COVID-19. Otherwise, in all circumstances, the user's digital diary can only be seen by the user themselves and nobody else; their privacy is ensured.

# Personas

## Creating Personas

Creating personas gave me the opportunity to provide a wider overall representation of the summarized User Groups who would use the COVID-19 Tracer App. In the creation of my personas, techniques such as User Modelling and User Design were used to help empathize with my personas. To start, I hypothesised who would use this app. Because this app would be used under direct advice of the government, it was obvious that this would reach a wide variety of people. So it was important to create personas that would closely resemble the most likely users of the app. In addition, my personas consist of people who, while keen to use the app, will do so for very different purposes. With this in mind, I 'created' Tanjiro Kamado and Eren Jaeger as individuals. I should point out that these two people originated from the manga series *Demon Slayer* and *Attack on Titan* respectively. Their personalities, however, were created by me, and closely mirror their behaviour in their respective manga series.

My first persona, **Tanjiro Kamado**, closely resembles younger adults and a very broad demographic. He is a representation of people who are very much well-behaved, organized, disciplined and diligent. He's tech savvy due to his employment as a UX Designer at Air New Zealand and essentially gets comfortable with any app he uses. He first heard of the COVID-19 Tracer App from the Ministry of Health and has no issues with using the app.

My second persona **Eren Jaeger**, closely resembles the teenage demographic. Unlike Tanjiro, Eren is more laid-back in his approach to a lot of things. He does not have the diligence and discipline of older people, but despite that he does get things done when required of him. Eren doesn't care that much about using new apps; he often uses a new app because either he has to, or other people tell him to do so. Eren doesn't care how difficult it would be for him to use a new app; if he has to use a new app, he is willing to learn how to interact with the UI of said app.

## Tanjiro Kamado



Tanjiro is a 23 year old UX Designer at Air New Zealand. He graduated from Victoria University of Wellington in 2019, and found a job at the airline soon after. Tanjiro likes to keep a diary of his daily activities; he normally uses the Notes app on his iPhone to do this. However, he has decided to use the COVID-19 Tracer App to speed up the process due to the convenience of QR code scanning. Tanjiro's goal with the app is simple; to track where he has been using the app's QR code reader in order to keep himself and others safe from a potential outbreak.

**Activities:** Tanjiro spends most of his time working on UX projects at Air New Zealand, including the airline's official app or their inflight-entertainment user interface. He spends his down time going to the gym or playing badminton.

**Attitudes:** Tanjiro is a kind-hearted person; he is very considerate of others and is aware of how his actions will affect the people around him.

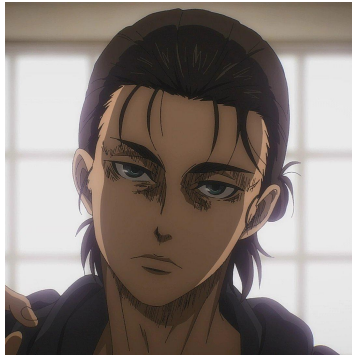
**Aptitudes:** Tanjiro is intelligent and disciplined; he knows when to get work done and when he can rest by organizing his week in advance.

**Weakness:** He's very obsessed with health and safety, often nagging his family about their personal hygiene and their driving conduct.

**Priorities:** Tanjiro wants to ensure the safety of himself and his family. In addition, he wants to contribute to the wider New Zealand community in fighting off COVID-19, going along with the advice of the New Zealand government and using the app diligently.

**Interaction:** Tanjiro will interact with the COVID-19 Tracer App whenever he is about to enter a store or use public transport; this could potentially occur multiple times a day.

## Eren Jaeger



Eren is a 19 year old first-year domestic student, living with his parents in Titahi Bay and studies Media Design at Victoria University of Wellington. Eren also works part-time at Burger King Porirua as a team member, helping out with the operations of the restaurant. Due to the advice of the government, and his parents, Eren wants to start using the COVID-19 Tracer App to appease them. He'll be using the app for the same reason of contact tracing in order to protect himself and his family, although in his mind he just wants his parents to stop nagging him about using the app.

**Activities:** Eren spends most of his time studying at university, often sitting down in the library and working on his assignments. He spends his down time watching Netflix and working on his 1986 Toyota AE86 Sprinter Trueno.

**Attitudes:** Eren appears to be cold-hearted and intimidating; although in reality he cares deeply about the people around him. He also doesn't tend to show much emotion about anything.

**Aptitudes:** Eren is a very creative person, often solving problems in ways only he would know and understand.

**Weakness:** He can be selfish from time to time, often putting himself above others in certain situations.

**Priorities:** Eren will use the COVID-19 Tracer App because his parents told him to do so.

**Interaction:** Eren will only use the COVID-19 Tracer App whenever he feels like it.

# Use Cases

## Scanning QR Code *Requires* QR Code Reader

User	System
Open app	
	Go to 'Record visit' page and enable: <b>Camera</b>
Point camera at QR code	
	Camera's built-in QR code reader successfully reads the QR code
	App records place and activity
	App records place and time
	Proceed to confirmation page
Add details	
	App records details
Tap 'Finish'	
	Data entry is added to diary
	<b>Visit recorded</b>

## Manual Diary Entry

User	System
Open app	
	Go to 'Record visit' page and enable: <b>Camera</b>
Tap 'Add manual entry'	
	Go to 'Add manual entry' page
Type place or activity	
	App records place or activity
Enter date and time	
	App records date and time
Add details	
	App records additional details
Add entry to diary	
	Data entry is added to diary
	Proceed to confirmation page
	Show details
Tap 'Finish'	
	<b>Visit recorded</b>

## Enable Bluetooth Tracing


User	System
Open app	
	Go to 'Record visit' page and enable: <b>Camera</b>
Tap 'dashboard'	
	Go to 'Dashboard' page
Tap 'Bluetooth tracing is off'	
	Go to 'Bluetooth tracing' page
Tap 'turn it on'	
	<b>Bluetooth tracing is enabled</b>

## View An Entry In The Diary

User	System
Open app	
	Go to 'Record visit' page and enable: <b>Camera</b>
Tap diary icon	
	Go to diary page
Tap diary entry	
	Go to diary entry page
	<b>Diary entry data is revealed</b>


# User Journey Map

## User Journey Map # 1

	<b>Name:</b> Tanjiro Kamado <b>Age:</b> 23 <b>Gender:</b> Male <b>Occupation:</b> UX Designer <b>Personality:</b> Kind-hearted, considerate	<b>Scenario:</b> Tanjiro has arrived outside a Spark retailer. He uses the COVID-19 Tracer App to sign in prior to entering the store.	<b>User Expectations:</b> Tanjiro is expecting the app to use the phone's built-in QR code reader to automate the sign in process.
	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
<b>Doing</b>	Walk towards QR code	Sign in with QR code	Enter the store
<b>Thinking</b>	Not thinking much	Stressed about how to make the QR code reader read the QR code	Glad with the eventual outcome
<b>Saying</b>	"I've arrived, time to look for the QR code."	"I'll use the app to sign in."	"Sign in done, time to enter the store."
<b>Insights</b> <ul style="list-style-type: none"> <li>The process of signing in using the QR code doesn't take much effort as it is all automated.</li> <li>The process could become complicated based on the fact that the QR code reader can only read the QR code if the camera is pointing directly at the QR code. If the QR code were to be located in an awkward position, it could cause a complication in the overall process.</li> </ul>		<b>Opportunities</b> <ul style="list-style-type: none"> <li>Allow the QR code reader to read the given QR code from any angle.</li> <li>Allow any QR code to be read regardless of the camera resolution (like when the camera is zoomed in).</li> <li>QR code could be read in any light</li> </ul>	

<ul style="list-style-type: none"> <li>• The camera resolution also affects how the given QR code is read.</li> <li>• Lighting affects how the QR code reader reads the QR code.</li> </ul>	
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## User Journey Map # 2

	<b>Name:</b> Eren Jaeger <b>Age:</b> 19 <b>Gender:</b> Male <b>Occupation:</b> Student <b>Personality:</b> Cold-hearted, intimidating	<b>Scenario:</b> Eren is about to board a train to Wellington. He will take a seat near a QR code where he can sign in	<b>User Expectations:</b> Eren is expecting the QR code reader to automate the sign in process.
	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
<b>Doing</b>	Board the train	Take a seat near QR code	Sign in using QR code
<b>Thinking</b>	Stressed about finding a seat with a nearby QR code	Not thinking much	Happy with the outcome
<b>Saying</b>	"Ugh, where can I find a seat near those QR code things?"	"Finally, I found a seat."	"Sign in done, time to relax."
<b>Insights</b> <ul style="list-style-type: none"> <li>• Refer to <a href="#">Tanjiro's User Journey Map</a></li> </ul>		<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Refer to <a href="#">Tanjiro's User Journey Map</a></li> </ul>	

# Reflection

## Persona Reflection

Creating personas enabled me to learn UX techniques that allowed me to understand user groups in greater detail. I was able to create *Tanjiro Kamado* and *Eren Jaeger* through User Modelling techniques. By using this technique, I was able to prepare a solid frame of reference for understanding the app's rather broad target audience. Both these personas represent the most likely group of people who would use the app. And as mentioned before, these personas use the same app for very different purposes.

Because my personas are of characters seen in Japanese manga, when creating the personas I did my absolute best to mirror their behaviour from their respective series. This was the most difficult part of the process considering my personas are of people who live in worlds that would absolutely not exist. Despite the difficulty of the process, adding in the additional information became very easy, because I could make up their real world personalities, job occupation and more based on their personalities observed from their manga series.

To help with the creation of my personas, I would spend some of my free time going through the app itself to identify what sort of user would be willing to use this app. With my extensive understanding of the app, I came to the conclusion that either tech savvy users or 'go along with the crowd' users would use the COVID-19 Tracer App.

In creating my personas, I also came to the conclusion that while many users will use the app, they will do so for very different purposes. This is part of the reason why the priorities of my personas in regards to the app contrast from one another.

## Use Cases Reflection

For creating the use cases, I essentially just used the app in my everyday life, especially when I was either at work or at university, the most likely situations where I would need to use the app. And in these environments, I was able to come up with use cases for the app. The four that I have come up with consist of the most likely uses for the app; the first three being logging user activity. In addition, using the app everyday helped me to understand the relationship between the user and the system, and in particular how the system's functionalities are heavily influenced by the user's needs and requirements. Another thing that helped me to create these use cases was the use

case diagram, although it is just a visual (and more general) representation of the app's user-system relationship. My personas have no direct influence on the use case; it is merely a general idea of how the user and system interact within the app.

# Bibliography

- [NZ COVID Tracer App](#)
- [Bluetooth tracing | Ministry of Health NZ](#)
- [Getting started with NZ COVID Tracer | Ministry of Health NZ](#)
- [\[Photo\] Tanjiro Kamado](#)
- [\[Photo\] Eren Jaeger](#)